CLAIMS

What is claimed is:

1. A light resistant colorant obtained by coupling a colorant with a light resistant material represented by Formula 1:

$$\begin{array}{c|c}
R_{4} & R_{5} \\
R_{4} & R_{5} \\
R_{3} & R_{2} \\
R_{1} & R_{2}
\end{array}$$
(1)

wherein R_1 is selected from the group consisting of a substituted or an unsubstituted alkylene of 1-20 carbon atoms, a substituted or unsubstituted an heteroalkylene of 1-20 carbon atoms, a substituted or unsubstituted arylene of 6-20 carbon atoms, and a heteroarylene of 6-30 carbon atoms; R_2 , R_3 and R_4 are independently selected from the group consisting of a hydrogen, a substituted or unsubstituted alkyl of 1-4 carbon atoms, and a substituted or unsubstituted heteroalkyl of 1-4 carbon atoms; R_5 and R_6 are independently selected from the group consisting of a hydrogen, an alkyl of 1-20 carbon atoms, a heteroalkyl of 1-20 carbon atoms, an aryl of 6-20 carbon atoms, and a heteroaryl of 6-20 carbon atoms; X is selected from the group consisting of a halogen, a hydroxyl, an amino, carboxylic acid or a salt thereof, sulfonic acid or a salt thereof, and phosphoric acid or a salt thereof; and n is an integer of 1-5.

2. The light resistant colorant according to claim 1, wherein the light resistant material is a compound represented by Formula 2:

$$R_4$$
 R_3
 R_1
 R_2
 R_1
 R_2
 R_3
 R_4
 R_2
 R_3
 R_4
 R_2
 R_3
 R_4
 R_4
 R_4
 R_5

wherein R_1 is selected from the group consisting of a substituted or an unsubstituted alkylene of 1-20 carbon atoms, a substituted or an unsubstituted heteroalkylene of 1-20 carbon atoms, a substituted or an unsubstituted arylene of 6-20 carbon atoms, and a heteroarylene of 6-30

carbon atoms; R_2 , R_3 and R_4 are independently selected from the group consisting of a hydrogen, a substituted or an unsubstituted alkyl of 1-4 carbon atoms, and a substituted or an unsubstituted heteroalkyl of 1-4 carbon atoms; R_5 is selected from the group consisting of a hydrogen, an alkyl of 1-20 carbon atoms, a heteroalkyl of 1-20 carbon atoms, an aryl of 6-20 carbon atoms, and a heteroaryl of 6-20 carbon atoms; and X is selected from the group consisting of a halogen, a hydroxyl, an amino, carboxylic acid or a salt thereof, sulfonic acid or a salt thereof, and phosphoric acid or a salt thereof.

- 3. The light resistant colorant according to claim 1, wherein the colorant is a dye or a pigment.
 - 4. A composition comprising: the light resistant colorant according to claim 1; and a carrier medium.
- 5. The composition according to claim 4, wherein the carrier medium is one of: water, at least one organic solvent, and a mixture thereof.
- 6. The composition according to claim 4, wherein, when the carrier medium is a mixture of water with at least one organic solvent, the organic solvent is added to the composition in an amount of 5 to 50 parts by weight based on 100 parts by weight of the composition.
- 7. The composition according to claim 5, wherein the organic solvent is selected from the group consisting of alcohols, ketones, esters, polyhydric alcohols, lower alkyl ethers, nitrogen-containing compounds, and sulfur-containing compounds.
- 8. The composition according to claim 4, further comprising at least one selected from the group consisting of a dispersing agent, a viscosity modifier, a surfactant, a wetting agent, a penetrant, a pH-adjustor, and a metal oxide.
 - 9. A composition comprising: the light resistant colorant according to claim 2; and a carrier medium.

10. A composition comprising: the light resistant colorant according to claim 3; and a carrier medium.

- 11. The composition according to claim 6, wherein the organic solvent is selected from the group consisting of alcohols, ketones, esters, polyhydric alcohols, lower alkyl ethers, nitrogen-containing compounds, and sulfur-containing compounds.
- 12. The composition according to claim 7, wherein the alcohol/alcohols is/are selected from the group consisting of methyl alcohol, ethyl alcohol, n-propyl alcohol, isopropyl alcohol, n-butyl alcohol, sec-butyl alcohol, t-butyl alcohol, and isobutyl alcohol.
- 13. The composition according to claim 7, wherein the ketone/ketones is/are selected from the group consisting of acetone, methylethyl ketone, and diacetone alcohol; ester such as ethyl acetate and ethyl lactate.
- 14. The composition according to claim 7, wherein the ester/esters is/are selected from the group consisting of ethyl acetate and ethyl lactate.
- 15. The composition according to claim 7, wherein the polyhydric alcohol/polyhydric alcohols is/are selected from the group consisting of ethyleneglycol, diethyleneglycol, triethyleneglycol, propyleneglycol, butyleneglycol, 1,4-butanediol, 1,2,4-butanetriol, 1,5-pentanediol, 1,2,6-hexanetriol, hexyleneglycol, glycerol, glycerol ethoxylate, and trimethylolpropane ethoxylate.
- 16. The composition according to claim 7, wherein the lower alkyl ether/ethers is/are selected from the group consisting of ethyleneglycol monomethyl ether, ethyleneglycol monoethyl ether, diethyleneglycol methyl ether, diethyleneglycol ethyl ether, triethyleneglycol monomethyl ether, and triethyleneglycol monoethyl ether.
- 17. The composition according to claim 7, wherein the nitrogen-containing compound/compounds is/are selected from the group consisting of nitrogen-containing compound such as 2-pyrrolidone and N-methyl-2-pyrrolidone.

18. The composition according to claim 7, wherein the sulfur-containing compound/compounds is/are selected from the group consisting of dimethyl sulfoxide, tetramethylenesulfone and thioglycol.

- 19. The composition according to claim 11, wherein the alcohol/alcohols is/are selected from the group consisting of methyl alcohol, ethyl alcohol, n-propyl alcohol, isopropyl alcohol, n-butyl alcohol, sec-butyl alcohol, t-butyl alcohol, and isobutyl alcohol.
- 20. The composition according to claim 11, wherein the ketone/ketones is/are selected from the group consisting of acetone, methylethyl ketone, and diacetone alcohol; ester such as ethyl acetate and ethyl lactate.
- 21. The composition according to claim 11, wherein the ester/esters is/are selected from the group consisting of ethyl acetate and ethyl lactate.
- 22. The composition according to claim 11, wherein the polyhydric alcohol/polyhydric alcohols is/are selected from the group consisting of ethyleneglycol, diethyleneglycol, triethyleneglycol, propyleneglycol, butyleneglycol, 1,4-butanediol, 1,2,4-butanetriol, 1,5-pentanediol, 1,2,6-hexanetriol, hexyleneglycol, glycerol, glycerol ethoxylate, and trimethylolpropane ethoxylate.
- 23. The composition according to claim 11, wherein the lower alkyl ether/ethers is/are selected from the group consisting of ethyleneglycol monomethyl ether, ethyleneglycol monomethyl ether, diethyleneglycol methyl ether, diethyleneglycol ethyl ether, triethyleneglycol monomethyl ether, and triethyleneglycol monoethyl ether.
- 24. The composition according to claim 11, wherein the nitrogen-containing compound/compounds is/are selected from the group consisting of nitrogen-containing compound such as 2-pyrrolidone and N-methyl-2-pyrrolidone.
- 25. The composition according to claim 11, wherein the sulfur-containing compound/compounds is/are selected from the group consisting of dimethyl sulfoxide, tetramethylenesulfone and thioglycol.

26. The light resistant colorant according to claim 1, wherein the light resistant colorant is a compound represented by Formula 4:

Formula 4

HOOC (OH)
$$\begin{array}{c} \text{OH} \\ \text{HO} \\ \text{OH} \\ \text{N} \\ \text{HO}_{3}\text{S} \end{array}$$

$$\begin{array}{c} \text{CH}_{2}\text{CH}_{2}\text{CH}_{2}\text{CH}_{2}\text{CH}_{2}\text{CH}_{2}\text{CH}_{2}\text{CH}_{2}\text{CH}_{3}\text{CH$$

27. The light resistant colorant according to claim 1, wherein the light resistant colorant is a compound represented by Formula 6:

28. The light resistant colorant according to claim 1, wherein the light resistant colorant is a compound represented by Formula 7:

Formula 7

29. The light resistant colorant according to claim 1, wherein the light resistant colorant is a compound represented by Formula 9:

Formula 9

$$\begin{array}{c} CH_{3} \\ CH_{2} \\ CH_{2} \\ CH_{2} \\ CH_{3} \\ CH_{4} \\ CH_{3} \\ CH_{4} \\ CH_{4} \\ CH_{4} \\ CH_{5} \\ CH_{5$$

30. The light resistant colorant according to claim 1, wherein the light resistant colorant is a compound represented by Formula 11:

Formula 11

$$\begin{array}{c} C_2H_5 \\ C_2H_5O \\ \end{array} \begin{array}{c} C_2H_5 \\ \end{array} \begin{array}{$$

31. The light resistant colorant according to claim 1, wherein the light resistant colorant is a compound represented by Formula 13:

Formula 13

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